

/

SEQUENCE LISTING

<110> TYRRELL, JOHN V.  
BERGQUIST, PATRICIA R.  
BERGQUIST, PETER L.  
SCHOLIN, CHRISTOPHER A.

<120> COMPOSITIONS AND METHODS FOR DETECTING RAPHIDOPHYTES

<130> 50681200121

<140> To be assigned  
<141> Herewith

<150> 09/596,136  
60/141,362  
<151> 2000-06-16  
1999-06-28

<160> 30

<170> PatentIn Ver. 2.1

<210> 1  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<220>  
<223> W is A or T/U; K is G or T/U.

<400> 1  
GWATTACCGC GGCKGCTG

18

<210> 2  
<211> 18  
<212> DNA  
<213> Artificial Sequence  
\\

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<220>  
<223> M is A or C; W is A or T/U.

<400> 2  
CAGCMGCCGC GGTAATWC

18

<210> 3  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 3  
CGACTGAGCA CGCACCTTT 19

<210> 4  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 4  
GCGACGGCAA AAAGACCAGG A 21

<210> 5  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 5  
GCATGTTGAA ACGCTCCAG 19

<210> 6  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 6  
AGCAAAGGTC CTCCGTCTA 20

<210> 7  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 7  
TACTCTCTT TCAAAAGTCT TTTCATC 27

<210> 8  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 8  
CCGCTTCACT CGCCGTTACT AG 22

<210> 9  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 9  
TCATCTTCC CTCACGGTAC TTGTT 25

<210> 10  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 10  
CGGCTGGACA CGCTTCTGT 19

<210> 11  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 11  
CAGCACGAAA TATGACCCCC G 21

<210> 12  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 12  
CCATGGGACA CAGCGCGCAC TAC 23

<210> 13  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 13  
TACAAACCAA GGTGCCTAA TG 22

<210> 14  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial  
  
<220>  
<223> oligonucleotide probe  
  
<400> 14  
AACTCTCTT CCAAAGTTCT TTTCATC 27

<210> 15  
<211> 23  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificial  
  
<220>  
<223> oligonucleotide probe  
  
<400> 15  
ACCACGACTG AGCACGCACC TTT 23

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificial  
  
<220>  
<223> oligonucleotide probe  
  
<400> 16  
AGCCCGGGAC CACGACTGAG 20

<210> 17  
<211> 23  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificial  
  
<220>  
<223> oligonucleotide probe  
  
<400> 17  
GAGCAAAGGT CCTCCGTCC AAC 23

<210> 18

<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 18  
TACTCTTT TCAAAAGTCT TTTCATC 27

<210> 19  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 19  
CCGCTTCACT CGCCGTTACT AG 22

<210> 20  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 25  
TCATCTTCC CTCACGGTAC TTGTT 25

<210> 21  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

<220>  
<223> oligonucleotide probe

<400> 21  
CGGCTGGACA CGCTTCTGTA G 21

<210> 22  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificial

<220>  
 <223> oligonucleotide probe

<400> 22  
 AACTCTTT CCAAAGTCT TTTCATC

27

<210> 23  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of -Artificial Sequence: Artificial

<400> 23  
 AGAGTAGCTG AGCACGCATC TCT

23

<210> 24  
 <211> 687  
 <212> DNA  
 <213> Chattonella antiqua

<400> 24  
 TTCTGAAGC GGAGGAAAAG AACCAACTCG GATTCCCTAG TAACGGCGAG TGAAGCGGGA 60  
 AGAGCTCATG TTGTAAATCT GGATGAGGAT TCCTCGTCCC GAATTGTAGT CTAGAGATGC 120  
 GTGCTCAGCT ACTCTCCAGG GCTAAGTCTG TTTGTGAAAG ACAGCATCAT GGACGGTGAT 180  
 AATCCGGTTC TTGCCTTGGG TGTTGTAGCG TCTTGAGCCG TCCTCAACGA GTCGAGTTGC 240  
 TTGGGATTGC AGCTCTAACG GGGTGGTAAA TTCCATCTAA AGCTAAATAT TGGTGGGAGA 300  
 CCGATAGCGA ACAAGTACCG TGAGGGAAAG ATGAAAAGAA CTTTGAAAAG AGAGTTAAAT 360  
 AGTACCTGAA ACTGCTGAAA GGGGAAGCGAA TGAAGTCAGT GTTGCTCTTT GTTCTCTGCA 420  
 TCCTCCCTGC GGGGATTGTG TATCGAGGAC TTTGAGCTTG TCAGGATGAG TTCTCTGCCG 480  
 CGGGATATGG TTTGTGAGCT GGATGCTTCT GCTGAACCTCA CTCTCTCTGT CGTGGCTTGG 540  
 ACTGAGGTTC CATCTTGCCTG TTGCCTGCTT GTTACTCTCC TGTGCTGTT TCTGTCTAC 600  
 TGCTGCAGT GTTCGGTTGC AGTGTGATTGGA CTGTGCAAGT TATGCATGCA AGGTCAGGAT 660  
 CCTGACGAAT GGCTTTATTA ACCCGAA

687

<210> 25  
 <211> 681  
 <212> DNA  
 <213> Chattonella subsalsa

<400> 25  
 GC GGAGGAAA AGAACCAACT CGGATTCCCT AGTAACGGCG AGTGAAGCGG GAAGAGCTCA 60  
 TGTTGTAAAT CTGGATGAGG GTTCCCTCGTC CGGAATTGTA GTCTAGAGAT GCGTGCTCAG 120

CTACTCTCCA GGGCTAAGTC TGTTTGTGAA AGACAGTGT C ATGGACGGTG ATAACCCGGT 180  
TCTTGCCTTG GATGTTGAG CGTTTGAGC CGTCCTCAAC GAGTCGAGTT GCTTGGGATT 240  
GCAGCTCTAA GTGGGTGGTA AATTCCATCT AAAGCTAAAT ATTGGTGGGA GACCGATAGC 300  
GAACAAGTAC CGTGAGGGAA AGATGAAAAG AACCTTGAAA AGAGAGTTAA ATAGTACCTG 360  
AAACTGCTGA AAGGGAAGCG AATGAAGTCA GTGTTGCTCT TTGTGCTCTG CATCCTCCCT 420  
GCGGGGATTG TGTATCGAGG ACTTGAGCT TGTCAAGGATG AGTCTCTGC CGCGGGATAT 480  
GTTTGTATG CTGGATGCTT TTTGCGAAC ATACATTCTC TGTCGTGGCT TGGACTGAGG 540  
TTCCATCTTG CCGTTGCCCTG TGCGTTCCCTC TCCCCTGCT GTCTCTGTT TACTGCTTGC 600  
AGTGCTCAGT TGCAGTAGTT GGACTGTGCG TATTATGCAT GCAAGGTAG GATCCTGACG 660  
AATGGCTTTA TTCACCCCGCA A 681

<210> 26  
<211> 703  
<212> DNA  
<213> Fibrocapsa japonica

<400> 26  
CAGAGGAAAA GAAACAACCTC GGATTCCCTA GTAACGGCGA GTGAAGCGGG AACAGCTCAT 60  
GATGTAATC TGGGTGACGT TTCGTTACCC CGAATTGTAG TCTACAGAAG CGTGTCCAGC 120  
CGCGCCCCCT GGCAAAAGTCC CCTGGAACGG GGCATCGTGG ACGGTGACAA TCCGGTTCAT 180  
GCCTGGGTG TCGCGTGTGT ACGGGCCGTT TTCAACGAGT CGAGTTGCTT GGGATTGCAG 240  
CTCTAACCGGG GTGGTAAATT CCATCTAAAG CTAAATATTG GTGGGAGACC GATAGCGAAC 300  
AAGTACCGTG AGGGAAAGAT GAAAAGAACT TTGGAAAGAG AGTAAACAG TACCTGAAAT 360  
TGCTGAAAGG GAAGCGAAGG AAGTCAGTGT ATGCCGGGG TCATATTTCG TGCTGCCTT 420  
AGGGGTAGTG CGCGCTGTGT CCCATGGGCT GGTCAGGATG GGTTTGTTC GCGGGAGATT 480  
CCCAGGGTTG AGGTAGGTCC TTTTGGATTG TCAGCAACCC TGTGGCATGT CGTGGTTCGG 540  
ACCGAGGCAT TAGTGCACCT TGGTTGTAC GGTTTATAT GCGTGATCAT GTCTGTGACA 600  
GCATGCTGTG GCGGTTGTGT TATCGTTAT TTGCCTTGCA TTCCCCGTGC GCTCTAGATC 660  
CTGTCAAATG GCTTCTTCC ACCTCTTGAA AGACGGACCA AGG 703

<210> 27  
<211> 715  
<212> DNA  
<213> Heterosigma akashiwo

<400> 27  
ACCCGCTGAA TTTAACGATA TAATTAAGGG GAGGAAAAGA AACCAACTCG GATTCCCTA 60  
GTAACGGCGA GTGAAGCGGG AAGAGCTCAT GTTGTAAATC TCCAGCTTGC TGGCGAATTG 120  
TAGTCTAAAG GTGCGTGCTC AGTCGTGGTC CCGGGCTAAG TCTGTTGGAA AACAGCATCA 180  
TGGACGGTGA CAATCCGGTT CTTGCCTGGG GTCCCGCGGC GTACGAGCCG TTTCCGACGA 240  
GTCGTGTTGC TTGGGATTGC AGCACTAAGT GGGTGGTAAA TTCCATCTAA AGCTAAATAT 300  
TGGTGGGAGA CCGATAGCGA ACAAGTACCG TGAGGGAAAG ATGAAAAGAC TTTTGAAG 360  
AGAGTAAAT AGTACCTGAA ACTGCTGAAA GGGAAAGCGAT TGAAGTCAGT GTTGCTCCTG 420  
GTCTTTTGC CGTCGCCCTC GTGGGGGTTG CGGCCTGGGG CCTGGAGCGT TTCAACATGC 480  
GTTCTGTTCC GCGGGAAATG TTCAGTGTGC TGGAACTTCG GGGAAACGCA CTGTTCTTGT 540  
CGTGGTTAGG ACGGAGGACC TTTGCTCCTT TGACTGCGCG TTCCCTCTC GGGTATGCTG 600  
GTGTCTACTG CTTGCAGTT TCATTTTCAT GCTTGCGACT GTGCCTGTTA TTCATGAGCG 660  
AACATGATGT TGAAGAAAATG GCTTTAATTA CCCCCGTCTTG AAACACGGAC CAAGG 715

<210> 28  
<211> 681  
<212> DNA  
<213> Vacuolaria virescens

<400> 28  
AACGGAGGAA AAGAATCCAA CTCGGATTCC CTAGTAACGG CGAGTGAAGC GGGAAAGAGCT 60  
CAAGTTGAAA ATCTGGGTGG GGCCTCCCCA TCCCAGATTG TAGTCTAGAG ACGCGTGCTC 120  
AGCCGTGCTC CAGGGCTAAG TCTGTTGGAA AACAGCATCA TGGACGGTGA TAATCCGGTT 180  
CTTGCCCTGG GTGTTGCGGT GTACGAGCCG TGATCCACGA GTCGAGTTGC TTGGGATTGC 240  
AGCTCTAACG GGGTGGTAAA TTCCATCTAA AGCTAAATAT TGGTGGGAGA CCGATAGCAA 300  
ACAAGTACCG TGAGGGAAAG ATGAAAAGAA CTTTGAAAAG AGAGTTAAAA AGTACCTGAA 360  
ATTGCTGAAA GGGAAAGCGAA TGAAGTCAGT GTCTGCTCCT GGTTGTATTT TCGGAGTCCC 420  
TGCGGGGATT CCGGCACTGT GGCCTGGAGC ATGTCAGGAT GAGTTCTCTG CCGTGGGATA 480  
TGTTTGGTGG GATTGGTACC TTCGGGGAAA CCCGCCACTC TTGTCATGGC TTGGACTGAG 540  
GTTCCATCTC GCCGTTGCC TGCCCGTCGC TCTCTGCCGG TTGTTGCTGT CCTACTGCTT 600  
GCAGTGCTCA GCTGCAGCTG ACTGACTGTG CGGGTCATGC ATGCGAGGTC AGGATCCTGA 660  
GGACTGGCCG TAATAACCCA A 681

<210> 29  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

PCR Primer

<400> 29  
ACCCGCTGAA TTTAAGCATA 20

<210> 30  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificial

PCR Primer

<400> 30  
CCTTGGTCCG TGTTTCAAGA 20